

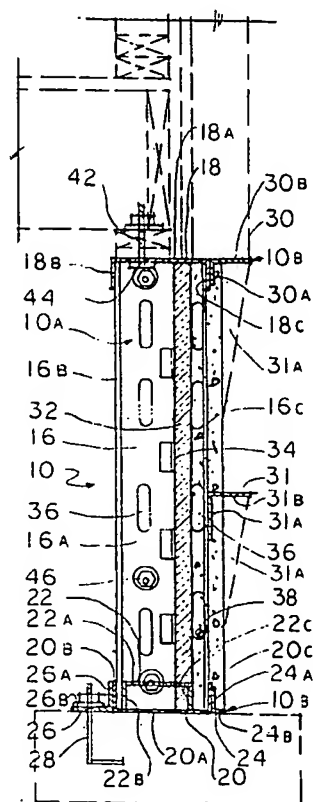
PCTWORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : E04H 1/00	A3	(11) International Publication Number: WO 99/10607
		(43) International Publication Date: 4 March 1999 (04.03.99)
(21) International Application Number: PCT/US98/17169 (22) International Filing Date: 19 August 1998 (19.08.98) (30) Priority Data: 08/916,626 22 August 1997 (22.08.97) US (71)(72) Applicant and Inventor: LEBLANG, Dennis {US/US}; 22719 Bridle Trail Road, Kildeer, IL 60047 (US). (74) Agent: FOX, Sidney, N.; Suite 260, 555 Skokie Boulevard, Northbrook, IL 60062-2833 (US).		(81) Designated States: AU, BR, CA, CN, CZ, EE, HU, IL, JP, KR, LT, LV, MX, NO, NZ, PL, RO, SG, SK, TR, UA, Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> (88) Date of publication of the international search report: 14 May 1999 (14.05.99)

(54) Title: SELF-CONTAINED MOLDED PRE-FABRICATED BUILDING PANEL AND METHOD OF MAKING THE SAME**(57) Abstract**

The invention provides pre-fabricated panels (10) including a truss structure (600, 666, 700, 722, 850) and a skeletal assembly (10A) comprising an array of steel channels (16) supported between base plates (18, 20), rigid sheeting (32) proximate to the channels, support members (34) adjacent the rigid sheeting, and angles (30, 24) and a forming structure (10B) defining the skeletal assembly (10A). The skeletal assembly (A) and forming structure (10B) oriented horizontal on a planar surface. A self-hardening material introduced into the forming structure (10B). The forming structure (10B) becomes an integral part of the panel. A building truss (600) including double-angle struts (608, 610), a web-reinforcement bar (618) threaded therealong, and rigid sheeting (618). A moulding (549) and means to enable press-seating thereof in a wet concrete wall are disclosed as is a flexible brick facing (536) also pressed into a wet concrete. A water stop (101, 101') is provided for cooperation with the panels.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakhstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

INTERNATIONAL SEARCH REPORT

 International application No.
PCT/US98/17169

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :E04H 1/00

US CL :52/24,97,234,426,562,597;249/44,45,47

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 52/24, 97, 234, 426, 562, 597; 249/44, 45, 47

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,491,947 A (KIM) 20 FEBRUARY 1996 (20/02/96), SEE ENTIRE DOCUMENT	25
X	US 4,021,989 A (HALA) 10 MAY 1977 (10/05/77), SEE ENTIRE DOCUMENT	43-44
X,P	US 5,678,361 A (BAIR) 21 OCTOBER 1997 (21/10/97), SEE ENTIRE DOCUMENT	53-54
X,P	US 5,695,443 A (BRENT ET AL) O 9 DECEMBER 1997 (09/12/97), SEE ENTIRE DOCUMENT	93-105
X,P	US 5,709,058 A (SHAW) 20 JANUARY 1998 (20/01/98), SEE ENTIRE DOCUMENT	93-105
X	US 4,622,796 A (AZIZ ET AL) O 18 NOVEMBER 1986 (19/11/86), SEE ENTIRE DOCUMENT	41-42

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
E earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Z* document member of the same patent family
O document referring to an oral disclosure, use, exhibition or other means	
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

27 JANUARY 1999

Date of mailing of the international search report

08 MAR 1999

 Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

BETH AUBREY

Telephone No. (703) 308-2168

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/17169

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,669,240 A (AMORMINO) 2 JUNE 1987 (02/06/87), SEE ENTIRE DOCUMENT	1-24,26-40, 46-52,55-9 2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/17169

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/17169

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s) 1-40, 46-52, 55, 62-75, 79-81, 84, 86-92, AND 107, drawn to a panel.

Group II, claim(s) 53-54, drawn to a water stop.

Group III, claim(s) 41-42, drawn to a brick layer.

Group IV, claim(s) 43-45, drawn to a moulding element.

Group V, claim(s) 56-61, 76-79, and 106, drawn to a truss structure.

Group VI, claim(s) 93-105, drawn to a form.

The inventions listed as Groups I - VI do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: each of the groups are subcombinations none requiring the specifics of any of the others.